



United States Copyright Office

Library of Congress · 101 Independence Avenue SE · Washington, DC 20559-6000 · www.copyright.gov

May 12, 2015

Avi S. Garbow
General Counsel
United States Environmental Protection Agency
garbow.avi@epa.gov

Re: Section 1201 Rulemaking – Proposed Exemptions for Vehicle Software

Dear Mr. Garbow:

I am writing to inform you of a regulatory proceeding pending before the U.S. Copyright Office that relates to vehicle software.

Section 1201 of title 17, United States Code (added as part of the Digital Millennium Copyright Act) generally prohibits the circumvention of technological protection measures (“TPMs”) that control access to copyrighted works, including software. Section 1201, however, allows the Librarian of Congress, upon the recommendation of the Register of Copyrights, to exempt certain classes of works from that prohibition, based upon a rulemaking proceeding held every three years. The statute requires the Copyright Office, in formulating its recommendation to the Librarian, to consult with the National Telecommunications & Information Administration of the Department of Commerce, which represents the Administration in the rulemaking. Because the Copyright Office oversees the rulemaking process, however, we thought it might be helpful to reach out to you directly.

The Office is currently engaged in the sixth triennial rulemaking proceeding under section 1201. Two of the proposed exemptions that are under consideration address access to software “that control[s] the functioning of a motorized land vehicle.” These proposals, filed by the Electronic Frontier Foundation and the Intellectual Property & Technology Law Clinic of the University of Southern California, would allow circumvention of TPMs in the computer programs embedded in vehicles for the purposes of “personalization, modification, or other improvement” and “researching the security or safety of such vehicles.” These proposals cover personal automobiles, commercial motor vehicles, and agricultural equipment. These potential exemptions have been opposed by other rulemaking participants, who have noted the EPA’s regulatory authority regarding vehicle emissions, and suggested that the EPA may have views concerning this matter. This letter is to ensure that you are aware of the pendency of the proceeding.

I have attached to this letter the notice of proposed rulemaking, which describes the proposed exemptions.¹ The full record of the rulemaking proceeding to date, including comments by participants and an agenda of upcoming public hearings to take place later this month, can be found at <http://copyright.gov/1201/>.

Please do not hesitate to contact me if you have any questions.

Sincerely,



Jacqueline C. Charlesworth
General Counsel and
Associate Register of Copyrights
jcharlesworth@loc.gov
202-707-8772

cc: John B. Morris, Associate Administrator and Director of Internet Policy,
National Telecommunications & Information Administration

¹ *Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies*, 79 Fed. Reg. 73,856, 73,869 (Dec. 12, 2014) ("Proposed Class 21: Vehicle Software—Diagnosis, Repair, or Modification" and "Proposed Class 22: Vehicle Software—Security and Safety Research").



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
GENERAL COUNSEL

July 17, 2015

Jacqueline C. Charlesworth
General Counsel and Associate Register of Copyrights
United States Copyright Office, Library of Congress
101 Independence Avenue, S.E.
Washington, D.C. 20559-6000

Re: Section 1201 Rulemaking (Docket No. 2014-07)
Proposed Exemption for Vehicle Software
U.S. Environmental Protection Agency Views

VIA E-MAIL and FIRST CLASS MAIL

Dear Ms. Charlesworth:

Thank you for your May 12, 2015 letter to Avi S. Garbow, General Counsel of the U.S. Environmental Protection Agency ("Agency" or "EPA"), notifying him about the rulemaking the U.S. Copyright Office is conducting under the Digital Millennium Copyright Act ("DMCA") and inviting the Agency to submit its views. I am responding on behalf of the General Counsel and appreciate the opportunity to convey the Agency's concerns with the possible outcome of this rulemaking.

The DMCA prohibits persons from circumventing "technological protection measures" ("TPMs") that restrict access to copyrighted works. 17 U.S.C. § 1201(a). It also authorizes the Librarian of Congress, upon your office's recommendation, to exempt certain TPMs from this "anti-circumvention" provision to allow uses of the protected works that would not otherwise be copyright infringement. 17 U.S.C. § 1201(c). In this year's rulemaking, the latest in a series of triennial rulemakings your office conducts under section 1201(c)(1), you are considering whether the Librarian should exempt TPMs that control access to computer programs installed in cars, trucks and agricultural machinery. 79 Fed. Reg. 73856-72, Notice of proposed rulemaking (Dec. 12, 2014).

The notice of proposed rulemaking seeks comment on two classes of TPM protected computer programs installed on motor vehicles. The Agency is concerned that exempting those

TPMs from the DMCA's anti-circumvention provision would enable actions that could slow or reverse gains made under the Clean Air Act ("CAA").

Regulations adopted by EPA under sections 202 and 213 of the CAA, 42 U.S.C. §§ 7521 and 7547, are responsible for a significant reduction in harmful emissions from motor vehicles. Computer programs installed on motor vehicles, controlling engine operations and minimizing emissions under a variety of conditions, have been critical to achieving the reduction, now over 90 percent since the passage of the 1990 Clean Air Act amendments. One such computer program, the Electronic Control Module, continuously monitors the vehicle engine and emission control system and dictates, among other things, the engine's fueling and timing strategies for purposes of complying with the CAA and its regulations. TPMs for Electronic Control Modules make it difficult for anyone other than the vehicle manufacturer to obtain access to the software.

The proposed exemptions would allow the owners of personal and commercial vehicles and of agricultural machinery, or persons acting on the owners' behalf, to bypass TPMs restricting access to vehicle software "for purposes of lawful diagnosis and repair, or aftermarket personalization, modification or other improvement" (Proposed Class 21) and "for purposes of researching the security or safety of such vehicles" (Proposed Class 22). 79 Fed. Reg. at 73869. Exemption proponents¹ maintain that the exemptions will allow vehicle owners to "personalize, improve or repair" and to "tinker with"² their vehicles, farmers to modify the efficiency and functionality of agricultural machinery,³ and researchers to discover programming errors that pose safety risks or make a vehicle vulnerable to remote attackers⁴.

The purposes cited by proponents for these two classes of exemptions are reasonable – at least in the abstract -- but EPA predicts that the exemptions would allow users to modify that software for purposes other than those the proponents envision. Based on the information EPA has obtained in the context of enforcement activities, the majority of modifications to engine software are being performed to increase power and/or boost fuel economy. These kinds of modifications will often increase emissions from a vehicle engine, which would violate section 203(a) of the CAA, commonly known as the "tampering prohibition".⁵

¹ In response to the Copyright Office's Notice of Inquiry, 79 Fed. Reg. 55687 (Sept. 17, 2014), the Electronic Frontier Foundation ("EFF") and the Intellectual Property & Technology Law Clinic of the University of Southern California ("USC") submitted petitions to exempt vehicle software TPMs.

² Petition of EFF [Vehicle Software – Modification and Repair] at 2.

³ Petition of USC [Vehicle Software – Modification] at 3.

⁴ Petition of EFF [Vehicle Software – Safety Research] at 4,5.

⁵ Under Section 203(a)(3) of the CAA, it is a violation of federal law:

"for any person to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title prior to its sale and

EPA is also concerned that the exemptions would hinder its ability to enforce the tampering prohibition. Under section 203(a), the Agency has taken enforcement action against third-party vendors who sell or install equipment that can “bypass, defeat, or render inoperative” software designed to enable vehicles to comply with CAA regulations. EPA can curb this practice more effectively if circumventing TPMs remains prohibited under the DMCA.

The Agency also questions whether there is a real need for the exemptions. Car makers are already required to provide access for lawful diagnosis and repair.⁶ In EPA’s view, whether or not they are designed for this purpose, the TPMs prevent unlawful tampering of important motor vehicle software.

The DMCA lists a number of factors for the Librarian to consider in determining whether to exempt a TPM from the Act’s anti-circumvention provision. Those factors appear to have little bearing on whether the Librarian should grant the exemptions for vehicle software TPMs to allow for the uses identified in the December 12th Notice of proposed rulemaking. For example, neither exemption would advance the purposes for which the fair use exception has traditionally applied, 17 U.S.C. § 1201((a)(C)(iii), nor have any effect on the market for the software, 17 U.S.C. § 1201((a)(C)(iv). The exemption would, though, make it easier to enable wrongdoing under another statute, which your office properly views as another “factor that may be appropriate for the Librarian to consider in evaluating this exemption.” 79 Fed. Reg. at 73858.

For all of these reasons, EPA urges you not to recommend the exemptions described in Proposed Class 21 and Proposed Class 22. Any benefit in exempting motor vehicle TPMs, allowing lawful owners to make non-infringing uses of the underlying software, is exceeded by the risk that lawful owners could, intentionally or not, modify that software in a way that would increase emissions regulated under the CAA.

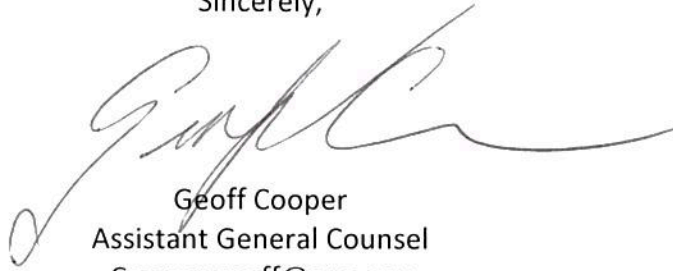
delivery to the ultimate purchaser, or for any person knowingly to remove or render inoperative any such device or element of design after such sale and delivery to the ultimate purchaser; or for any person to manufacture or sell, or offer to sell, or install, any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine, where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title, and where the person knows or should know that such part or component is being offered for sale or installed for such use or put to such use.”

42 U.S.C. § 7522(a).

⁶ 40 C.F.R. 86.1806-05(f). See also Memorandum of Understanding and Right to Repair Agreement, a nationwide agreement among automakers, after-market part suppliers, and auto repair businesses to provide necessary access to vehicle software for repair purposes.

We welcome the opportunity to speak directly with your office so we can provide more details regarding EPA's concerns. I will contact you to arrange that meeting with EPA experts on CAA vehicle emissions regulations. In the meantime, if you have any questions, please don't hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Geoff Cooper', with a long horizontal flourish extending to the right.

Geoff Cooper
Assistant General Counsel
Cooper.geoff@epa.gov
(202) 564-5451

cc: Avi S. Garbow, General Counsel, EPA
John B. Morris, Associate Director and Director of Internet Policy, NTIA
Annette Hebert, California Air Resources Board

From: [Piech David A](#)
To: [Bunker Byron](#)
Subject: FW: Regarding EFF/USC DMCA petition
Date: Tuesday, April 21, 2015 5:56:23 PM

My bad...

From: Piech David A

Sent: Tuesday, April 21, 2015 4:49 PM

To: 'kpryor@arb.ca.gov'; 'byron.bunker@epa.gov'

Cc: 'morrie.kirshenblatt@ec.gc.ca'

Subject: Regarding EFF/USC DMCA petition

See attached. Again, the petition would allow 'fair use' by owners of equipment to engine and equipment code. Please note that JDeere (and others) provide at no or nominal charge access to diagnostic code equipment and/or information.

https://www.eff.org/files/2014/11/04/dmca_agricultural_machinery_modification_petition.pdf

See page 4, Items 6.2 and 6.3

<https://www.eff.org/deeplinks/2014/11/eff-librarian-congress-let-car-owners-look-under-hood>

New this cycle, however, are our requests to allow vehicle owners to [repair, study](#), and [tinker with](#) their own vehicles.

Some articles:

<http://www.wired.com/2015/04/dmca-ownership-john-deere/>

[http://copyright.gov/1201/2015/comments-](http://copyright.gov/1201/2015/comments-032715/class%2017/General_Motors_class17_1201_2014.pdf)

[032715/class%2017/General Motors class17_1201_2014.pdf](http://copyright.gov/1201/2015/comments-032715/class%2017/General_Motors_class17_1201_2014.pdf)

[http://copyright.gov/1201/2015/comments-](http://copyright.gov/1201/2015/comments-032715/class%2021/John_Deere_Class21_1201_2014.pdf)

[032715/class%2021/John Deere Class21_1201_2014.pdf](http://copyright.gov/1201/2015/comments-032715/class%2021/John_Deere_Class21_1201_2014.pdf)

Not Responsive

From: Chris Nevers [mailto:CNevers@autoalliance.org]
Sent: Wednesday, May 13, 2015 8:41 PM
To: Wehrly, Linc <wehrly.linc@epa.gov>
Subject: Fwd: Digital Millennium Copyright Act (DMCA) - Calibration Modifications

Hello Linc,

Is anyone at EPA working on the digital millennium copyright act? We are concerned that allowing access to vehicle software will allow aftermarket shops and owners to easily recalibrate vehicles and cause all sorts of havoc. Imagine a fuel economy cal that biases lean! Then there is the concern with bypassing SCR dosing and inducement strategies. I don't even want to think about electronic throttle control or battery safety.

Steve Douglas, Alliance Director out in California, is testifying against the above proposed act. Is EPA involved? Is Anne W still covering OECA issues?

Of course, the manufacturers are also concerned about damage done to vehicles before calibrations are "reversed" to hide any tampering.

As an aside, I sent the latest fuel economy cut points analysis to Dave G and Global. I haven't heard anything back from Dave.

Thanks,

Chris Nevers
248 794 5002

Begin forwarded message:

From: Steve Douglas
Sent: Wednesday, May 13, 2015 8:40 AM
To: McCarthy, Mike@ARB (michael.mccarthy@arb.ca.gov)
Cc: Mike Regenfuess (mregenfu@arb.ca.gov); Leela Rao (lrao@arb.ca.gov)
Subject: Digital Millennium Copyright Act (DMCA) - Calibration Modifications

Mike,

I'm going to testify at the Copyright Office's DMCA hearing next Tuesday in Los Angeles. The Electronic Frontier Foundation (EFF) has asked the Copyright office to exempt vehicle software from copyright laws so that the ECU software and calibrations can be modified to increase performance or fuel economy (I suggest at the expense of higher emissions). Once someone hacked into the vehicle software, the software could post this online allowing anyone to modify it in any manner they choose. This could have dire consequences on pollution control in general and I&M in particular.

We're obviously opposing the change, and it may be too late for ARB to weigh in (I was pulled into this about a week ago, prior to that it was handled by our legal). However, I wanted you to be aware of this. It's getting a LOT of play in the blogs with articles like, **"Copyright act could make it illegal to repair your own car"** (<http://www.infoworld.com/article/2914003/government/dmca-copyright-law-could-make-it-illegal-to-repair-your-car.html>).

To be clear, and despite the headlines, we are NOT asking for ANY change to the current system. We support the status quo.

I've attached a draft of my testimony (this was just sent to the members this morning), but I doubt it will change significantly. At the end of the testimony are some questions the copyright panel might ask after the oral testimony, and I've included answers. I sprinkle ARB's name throughout the testimony. If you see anything patently untrue (or misleading), let me know.

I've also attached EFF's short-form initial request. You can find all of the public comments here <http://copyright.gov/1201/> on the right-hand side under "Public Comments." The Vehicle Software exemption is under Class #21. (The Copyright Office is considering a number of other exemptions in this rulemaking.)

Best Regards,
Steve

Steven Douglas
Senior Director, Environmental Affairs
Call or Text: (916) 538-1197

Before the
U.S. COPYRIGHT OFFICE, LIBRARY OF CONGRESS

**In the matter of Exemption to Prohibition on Circumvention
of Copyright Protection Systems for Access Control Technologies**

Docket No. 2014-07

Petition of Electronic Frontier Foundation

Submitted by:

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The Electronic Frontier Foundation submits the following petition and respectfully asks the Librarian of Congress to exempt the following class of works from 17 U.S.C. § 1201(a)(1)'s prohibition on the circumvention of access control technologies for 2015-2018:

Proposed Class:¹ *Lawfully-obtained computer programs that control or are intended to control the functioning of a motorized land vehicle, including firmware and firmware updates, where circumvention is undertaken by or on behalf of the lawful owner of such a vehicle for the purpose of lawful aftermarket personalization, improvement, or repair.*

I. The Commenting Party

The Electronic Frontier Foundation (EFF) is a member-supported, nonprofit public interest organization devoted to maintaining the traditional balance that copyright law strikes between the interests of copyright owners and the interests of the public. Founded in 1990, EFF represents thousands of dues-paying members, including consumers, hobbyists, computer programmers, entrepreneurs, students, teachers, and researchers, who are united in their reliance on a balanced copyright system that ensures adequate protection for copyright owners while facilitating innovation and broad access to information in the digital age.

In filing this petition, EFF represents the interests of the many individuals who have purchased vehicles that contain computer programs that control vehicle operation and either have or would like

¹ Petitioners expect to further develop the proposed exemption consistent with the principles identified in this petition and the record developed in the course of this proceeding.

to personalize, improve, or repair those vehicles.

II. Proposed Class: Circumvention Necessary for After Market Personalization, Improvement, or Repair in Vehicles with Internal Computer Systems

A. Overview

Modern vehicles are equipped with a system of computers that monitor and control many of the vehicle's functions. In cars, these computers are called Electronic Control Units, or ECUs. In any given car, there are scores of individual ECUs with unique functions working in synchronization to dictate vehicle performance.² For example, the Engine Control Module is the ECU that "determine[s] the amount of fuel, ignition timing, and other engine parameters" of a car.³ The Electronic Brake Control Module is the ECU that "controls the [system that] prevent[s] brakes from locking up and skidding by regulating hydraulic pressure."⁴

The ECUs in a vehicle perform their designated functions because they have been programmed to do so. Given this, a wide variety of customization, innovation, and repair activities that have traditionally been within reach of a vehicle owner now require access and modification of this computer code, including ECU firmware. Modifications and adjustments to car firmware allow car owners to fix malfunctioning software, install new parts, add new features, and customize the vehicle for their use. One community, known as "ecomodders" or "hypermilers," alters car firmware to improve gas mileage to save money and help the environment.⁵ Cars may be built for fuel optimization at sea level and run inefficiently at high altitudes unless adjustments are made.⁶ The increasing prevalence of inter-vehicle communication may necessitate modification for drivers to travel without being tracked by their electronic signatures.⁷ Certain repairs also necessitate firmware adjustments. For example, without access to ECU firmware, it may be impossible to operate a car after replacing engine components.⁸

Vehicle owners who tinker with their vehicles are engaged in a decades-old tradition of mechanical curiosity and self-reliance. The automobile aftermarket is remarkably robust, accounting for hundreds of billions of dollars in the United States alone.⁹ Yet, because most automobile manufacturers deploy

² See Graham Pitcher, *Growing Number of ECUs Forces New Approach to Cars Electrical Architecture*, NEW ELECTRONICS (Sept. 25, 2012), <http://www.newelectronics.co.uk/electronics-technology/growing-number-of-ecus-forces-new-approach-to-car-electrical-architecture/45039/>;

Ben Wojdyla, *How it Works: The Computer Inside Your Car*, POPULAR MECHANICS (Feb. 21, 2012), <http://www.popularmechanics.com/cars/how-to/repair/how-it-works-the-computer-inside-your-car>.

³ Karl Koscher, *Experimental Security Analysis of a Modern Automobile*, CENTER FOR AUTOMOTIVE EMBEDDED SYSTEMS Security 5 (May 16, 2010), <http://www.autosec.org/pubs/cars-oakland2010.pdf>.

⁴ *Id.*

⁵ See James Foxall, *Can You Improve Economy by Chipping Your Car's Engine?*, THE TELEGRAPH (Feb. 7, 2013), <http://www.telegraph.co.uk/motoring/news/9826964/Can-you-improve-economy-by-chipping-your-cars-engine.html>.

⁶ See, e.g., Marlan Davis, *Density Altitude-Tuning for the Weather*, HOT ROD MAGAZINE (Apr. 29, 2009), available at http://www.hotrod.com/techarticles/engine/hrdp_0406_density_altitude_tuning.

⁷ See "Federal Motor Vehicle Safety Standards: Vehicle-to-Vehicle (V2V) Communications," 79 Fed. Reg. 49270 (Aug. 20, 2014) (describing vehicle-to-vehicle communications capabilities).

⁸ Overview, OPENXC, <http://openxcplatform.com/overview/index.html> (last visited Oct. 17, 2014).

⁹ *Who We Are*, AUTOCARE ASSOCIATION, <http://www.autocare.org/who-we-are> (last visited Oct. 13, 2014) ("The Auto Care Association is the voice of the \$300 billion plus auto care industry.")

measures to prevent access to ECU firmware and updates, vehicle owners are unable to access the firmware on their own vehicles without incurring legal risk under Section 1201(a)(1).

B. Copyrighted Works Sought to be Accessed

This petition seeks a limited exemption for computer programs that control the functioning of a vehicle or are intended to do so, including firmware and firmware updates. Computer programs are considered “literary works” under 17 U.S.C. § 102.

C. Technological Protection Measures

There are at least three technologies that prevent access to most ECU firmware and create a vast array of challenges for vehicle owners and hobbyists who wish to improve or alter the performance of their vehicle. The first includes a set of challenge-response mechanisms, involving access codes, passwords, keys, or digital signatures.¹⁰ The second is encryption, which is used to restrict access both to firmware contained in certain vehicle ECUs and to firmware update files.¹¹ The third involves the disabling of access ports, such as “JTAG pins,” on the circuitry.¹²

D. Noninfringing Uses

1. Fair Use

Vehicle owners who copy and modify vehicle-related software for legitimate purposes and distribute their findings are engaged in fair use. Similar exemptions have been granted in past rulemakings to allow owners of devices containing copies of software to adapt those copies to add new capabilities, when such uses do not harm the interest of the copyright owner.¹³

The first fair use factor is the purpose and character of the use. Vehicle owners tinkering with their vehicles are interested in the functional aspects of the code that controls vehicle systems. Research into the functioning of vehicle code is a fair use because it does not supplant the purpose of the original work, but rather advances a “further purpose or different character.”¹⁴ Specifically, access and disassembly of software that facilitates a greater understanding of the underlying technology is a

¹⁰ See, e.g., Volha Bordyk, *Analysis of Software and Hardware Configuration Management for Pre-Production Vehicles*, CHALMERS UNIVERSITY OF TECHNOLOGY 35 (Jan. 2012), <http://publications.lib.chalmers.se/records/fulltext/156295.pdf>; Charlie Miller & Chris Valasek, *Adventures in Automotive Networks and Control Units* 15, http://illmatix.com/car_hacking.pdf (last visited Oct. 19, 2014); *Factory Locked ECUs*, REVO, <http://www.revotechnik.com/support/technical/factory-locked-ecus> (last visited Oct. 19, 2014).

¹¹ *Id.* at 21 (noting that software updates for some Volvo vehicles are encrypted); Rory Jurnecka, *Cobb Tuning Cracks Nissan GT-R's Encrypted ECU*, MOTOR TREND (Apr. 09, 2008), <http://wot.motortrend.com/cobb-tuning-cracks-nissan-gtrs-encrypted-ecu-308.html>; Damon Lavrinc, *The Dinan S1 M5 is How an Obsessed Tuner Builds a Better BMW*, JALOPNIK (Oct. 09, 2014), <http://jalopnik.com/the-dinan-s1-m5-is-how-an-obsessed-tuner-builds-a-bette-1643950782>.

¹² Charlie Miller and Chris Valasek, *Car Hackers' Handbook*, http://opengarages.org/handbook/2014_car_hackers_handbook_compressed.pdf, at pp. 56-60.

¹³ Final Rule in RM 2008-8, Exemption to Prohibition on Circumvention of Copyright Protection Systems for Access Control Technologies (July 27, 2010) (“2010 Rule”) 75 Fed.Reg. 43825, 43830, available at <http://www.copyright.gov/fedreg/2010/75fr43825.pdf> (to be codified at 37 C.F.R. pt. 201).

¹⁴ *Campbell v. Acuff-Rose Music, Inc.*, 510 U.S. 569, 579 (1993).

fair use.¹⁵ It is also necessary to allowing for interoperability between the vehicle and aftermarket components – both physical elements of the vehicle and software written by enthusiasts. Interoperability is a legitimate purpose recognized by appellate courts¹⁶ and the Librarian of Congress.¹⁷

The nature of vehicle firmware weighs in favor of fair use under the second statutory factor because it contains “unprotected aspects that cannot be examined without copying.”¹⁸ Permitting the disassembly of copyrighted code is necessary to prevent copyright owners from gaining a “de facto monopoly” over non-copyrighable, functional components of copyrighted works.¹⁹

As for the third factor, copying the entirety of a work is fair use when proportionate to the legitimate purpose of the user.²⁰ In reverse engineering cases, use of an entire work is typically necessary and therefore fair.²¹ Tinkerers’ access and copying of the entire firmware within an ECU or an update is essential to understanding the functionality of a vehicle and determining how much storage capacity is available in the hardware for additional functionality.²² This process requires the use of the entire work, since functionality may be found anywhere in the code and the technological process of reading the firmware off of the ECUs or decrypting an update typically provides the entire program, with no means to access merely a portion.

As for the fourth statutory factor, “a use that has no demonstrable effect upon the potential market for, or the value of, the copyrighted work need not be prohibited in order to protect the author's incentive to create.”²³ A tinkerer must purchase an entire car in order benefit from modifying and accessing ECU firmware. An exemption for car modifications and repairs would not decrease the

¹⁵ See *Sega Enterprises Ltd. v. Accolade, Inc.*, 977 F.2d 1510, 1522-23 (9th Cir. 1992) (holding that use of copyrighted material to study functional requirements was fair use).

¹⁶ See, e.g., *Sony Computer Entm’t v. Connectix Corp.*, 203 F.3d 596, 606 (9th Cir. 2000) (enabling use of the copyrighted work on a new platform); *Sega*, 977 F.2d at 1520-28 (gaining access to platform for compatibility with independently-created games); *Kelly v. Arriba Soft Corp.*, 336 F.3d 811, 818-20 (9th Cir. 2003) (using copyrighted images as thumbnails in search engine); *Perfect 10, Inc. v. Amazon.com, Inc.*, 508 F.3d 1146, 1163-68 (9th Cir. 2007) (reaffirming *Kelly*).

¹⁷ 2010 Rule, 75 Fed.Reg. at 43830.

¹⁸ *Connectix*, 203 F.3d at 603.

¹⁹ *Sega*, 977 F.2d at 1526. See also *Connectix*, 203 F.3d at 605 (“If Sony wishes to obtain a lawful monopoly on the functional concepts in its software, it must satisfy the more stringent standards of the patent laws.”).

²⁰ See *Kelly*, 336 F.3d at 820 (holding that third fair use factor did not weigh against copier when entire-work copying was reasonably necessary). See also *Authors Guild, Inc. v. HathiTrust*, 755 F.3d 87, 98 (2d Cir. 2014) (“For some purposes, it may be necessary to copy the entire copyrighted work, in which case Factor Three does not weigh against a finding of fair use.”); *A.V. ex rel. Vanderhye v. iParadigms, LLC*, 562 F.3d 630 642 (4th Cir. 2009) (holding that copying that is not “excessive or unreasonable” in relation to the purpose is fair).

²¹ See *Sega*, 977 F.2d at 1527 (holding that wholesale copying of computer software is due greater deference); *Connectix*, 203 F.3d at 606 (reaffirming *Sega*). See also *HathiTrust*, 755 F.3d at 99 (holding that copying that is not “excessive or unreasonable” in relation to the purpose is fair).

²² See, e.g., Tephra, Forum post to *TephraMod V7*, EVOLUTIONM.NET (Oct. 10, 2009), <http://www.evolutionm.net/forums/ecuflash/451836-tephramod-v7.html> (last updated Apr. 10, 2011).

²³ *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 450 (1984).

market for car purchases and may increase demand by introducing additional functionality.²⁴

2. Section 117

Vehicle owners are further entitled to access, copy, and modify the vehicle firmware under Section 117 of the Copyright Act. An individual who owns a vehicle and the copy of the firmware embodied in an ECU conforms with Section 117 when extracting it for analysis.

E. Adverse Effects

Vehicle owners expect to be able to repair and tinker with their vehicles. A booming aftermarket industry relies on owners' having this capability,²⁵ and vehicle owners have traditionally been the source of countless automotive innovations.²⁶ But TPMs on ECU firmware block such legitimate activities,²⁷ forcing vehicle owners to choose between breaking the law or tinkering and repairing their vehicles.

In the BMW aftermarket, the presence of strong encryption forced tuning company Dinan to create their own replacement ECU hardware, which could be installed at great expense to control the systems of BMWs in lieu of the original ECU devices and software.²⁸ For an individual vehicle owner, it would be impossible to design and manufacture custom ECU hardware and software in order to regain control of one's vehicle in the face of TPMs. Section 1201(a)(1) also chills research that might help individuals circumvent vehicle TPMs.²⁹

Existing statutory exemptions are not adequate for a variety of reasons: tinkerers often do not have a sole purpose that fits one of the exemptions, the interoperability exemption refers to interoperability between computer programs (not physical systems such as replacement parts), rightsholders may argue that vehicle owners have not properly sought or obtained permission for their conduct, and tinkerers often wish to share information relevant to their work, which may weigh against them under the statutory exemption factors even without constituting a violation of Section 1201(a)(2). Additionally, the legal ambiguity and complexity of the exemptions make Section 1201's requirements a trap for the unwary.

III. Conclusion

For the reasons described above, the Librarian should determine that the non-infringing uses described herein are, and are likely to be, adversely affected by the prohibitions of Section 1201(a)(1), and therefore approve the proposed exemptions for the period 2015-2018.

²⁴ See, e.g., Stephen Edelstein, *Best Cars to Modify: 10 Starting Points for the Ultimate Custom Car*, DIGITAL TRENDS (Mar. 18, 2014), <http://www.digitaltrends.com/cars/best-cars-to-modify>.

²⁵ *About SEMA*, SEMA, <http://www.sema.org/about-sema> (last visited Oct. 19, 2014).

²⁶ See, e.g., *Factory Locked ECUs*, *supra*.

²⁷ *Calibrating Automotive Electronics*, ETAS, http://www.etas.com/en/products/solutions_calibrating_automotive_electronics.php (last visited Oct. 28, 2014).

²⁸ See Lavrinc, *supra*.

²⁹ See Ishtiaq Rouf et al., *Security and Privacy Vulnerabilities of In-Car Wireless Networks: A Tire Pressure Monitoring System Case Study*, USENIX SECURITY 2010 12 (2010).

My name is Steve Douglas, and I am Senior Director of Environmental Affairs for the Alliance of Automobile Manufacturers. This testimony is also being presented on behalf of the Association for Global Automakers, and is endorsed by [NADA?]. I have also attached to my testimony a supporting letter from the Automotive Service Association, the largest national independent automotive repair association in the United States. So in essence I am here on behalf of the companies that make, sell and repair cars in America.

The proponents state that an exemption is needed for three activities related to vehicles - diagnosis, repair, and modification. In my limited time, I will explain why, for the first two activities - diagnosis and repair - there is no need to circumvent access controls on Electronic Control Units (ECUs). Then, I will address why tampering with ECUs to “modify” vehicle performance undermines national regulatory goals for clean air, fuel efficiency, and auto safety, and why the Copyright Office should care about that.

Before addressing these two issues, I’d like to distinguish vehicle software from the software system on your smart phone. There are 20-30 different ECUs on your vehicle, each running different versions of software optimized for your vehicle’s safety and pollution control systems. Since software modification by a previous owner could be impossible to detect, a subsequent owner might find warning lights disabled, sensors deactivated, and engine parameters changed, without ever knowing until a problem occurred. The ONLY way you, as an owner, can have confidence that the vehicle’s safety and air pollution control systems will operate as designed is because of the TPMs the proponents seek to bypass.

1. Diagnosis/repair

State and federal regulations, combined with the Right to Repair MOU and the 2002 “Dorgan letter,” guarantee all independent repair shops and individual consumers access to all the information and tools needed to diagnose and repair Model Year 1996 or newer cars. This information and these tools are accessible online, through a thriving and competitive aftermarket. Every piece of information and every tool used to diagnose and repair vehicles at franchised dealers is available to every consumer and every independent repair shop in America. This has been the case for the past 12 years. Moreover, all of these regulations and agreements require automakers to provide the information and tools at a “fair and reasonable price.” No one in the

last 12 years has disputed this fact, in any of the various avenues for review including U.S. EPA, the California Air Resources Board, and OEM-aftermarket organizations.

There is absolutely no need to hack through technological protection measures and copy ECU software to diagnose and repair vehicles.

2. Modification

The regulations and agreements discussed above do not apply to information needed to “modify” engine and vehicle software. In fact, because of the very high pollution associated with “performance chips” - which are the exact modifications suggested by the proponents - California once mandated anti-tampering provisions including encryption. California eventually eliminated the anti-tampering mandate but did so only based on the understanding that automakers would continue to include encryption and other measures to prevent software modification.

We strongly support a competitive marketplace in the tools and information people need so their cars continue to perform as designed, in compliance with all regulatory requirements. But helping people take their cars out of compliance with those requirements is something we certainly do not want to encourage. That, in essence, is what proponents of exemption #21 are calling for, in asserting a right to hack into vehicle software for purposes of “modification.”

Let me give a simple example. Suppose a vehicle owner thinks, “I paid for the passenger airbag, I want it to deploy if I crash.” He “modifies” the software so that the passenger airbag is always armed. A few years later, he sells the vehicle, and a few years after that, the second owner sells it to a third. The subsequent vehicle owners would have no idea that the airbag software had been modified, and could have an airbag deploy with a small child in the passenger seat.

The proponents also suggest that tinkerers could modify engine software to achieve greater fuel economy. Automotive software engineers are well aware of the ways to increase fuel economy through engine software changes. However, these changes typically increase vehicle air pollution.

In the design and operation of ECUs in today's automobiles, manufacturers must achieve a delicate balance among many competing regulatory demands, notably emissions (air pollution); fuel economy; and of course, vehicle safety. If the calibrations are out of balance, the car may be taken out of compliance. This is so likely to occur with many of the modifications that the proponents want to make that you could almost say that noncompliance is their goal, or at least an inevitable side effect.

I know that the Copyright Office is reluctant to base its decision on "non-copyright factors," and that it has refused to do so in the past in other contexts. But I implore that you please consider that this situation is different, both in degree and in kind. The auto industry is far more comprehensively regulated, on both federal and state levels, and across many more dimensions of the performance of our product, than, say, the business of manufacturing smartphones. These regulations are enforced, to advance broad public health and safety goals; compliance affects the air we breathe, our national energy independence, and even the physical safety and security of our families. Thus, the consequences of encouraging third parties to take our products out of compliance are far more significant for our companies, and extend to product liability and forensic investigations. As the Office assesses the "real world impacts" of its decisions, it should consider the unintended consequences of putting a government imprimatur on activities that could seriously undermine those national goals.

Diagnosis and Repair

Q. Why does the MOU exclude telematics, and what impact does that have on your argument that the MOU makes circumvention unnecessary for repair and diagnosis?

Absolutely none. The MOU is not silent on telematics necessary for vehicle diagnosis and repair. If manufacturers provide information necessary for the diagnosis and repair to their dealers via telematics, and that information is not available through diagnostic tools available to the aftermarket, then the manufacturer would be required to make that information available to the aftermarket.

Q. Some obligations of the MOU don't kick in until 2018. Why do you say it's in full force now?

It's not only in full force now, it's been in full force for the past 12 years for 1996 and newer vehicles. CA regulations require automakers to make available to independent repair shops all service information and manufacturer diagnostic tools that it makes available to its dealers. Moreover, the CA regulations require automakers to make available to tool companies all of the information necessary to develop tools with the exact same functionality as the manufacturer tools. While the CA regulations only apply to emission related systems, the Dorgan agreement that was signed by all of the automakers in 2003, extends these same requirements to non-emission related systems and components.

The 2018 requirements in the MOU only provide an additional method of diagnosing vehicles. For example, rather than using a aftermarket or automaker diagnostic tool, an owner, repair shop, or dealer could use a laptop computer and a diagnostic "pass-through" device to diagnose vehicles.

Q. Proponents say that no matter what the MOU provides, they have to pay for those tools and information, and they are entitled to free access under the fair use doctrine. How do you respond?

Forcing manufacturers to provide products for free would border on illegal taking. Not one time over the past 16 years of working with the independent repair community, have they ever suggested that automakers should provide tools or service information for free. Every

regulation and agreement in the past 12 years has included a requirement to provide information and tools at a “fair and reasonable price.” Manufacturers that fail to comply with the CARB or EPA “fair and reasonable” requirement, are subject to a \$25,000 per day per violation fine. Additionally, every agreement between the automakers and the aftermarket for the past 12 years has included the same “fair and reasonable price” provision. In the past 12 years, no one (consumers or agencies) has asserted that information and tools are not provided at a “fair and reasonable price.”

Q. Your organization and its members signed the R2R MOU, and you say it takes care of the need to circumvent for diagnosis and repair. But the Auto Care Association also signed the MOU, and it filed comments in support of proposed exemption #21, saying the MOU does not fully address the needs of the aftermarket. Your response? How are we supposed to resolve these disparate interpretations of the MOU from two signatory organizations?

There’s no need to rely on the MOU. Automakers have been making the exact same service information, tools, and tool information available to the public and independents since 2003, covering vehicles back to 1996. This is a matter of fact.

Modification

Q. If the impact on regulatory compliance of allowing circumvention for modification is as serious as you suggest, why aren’t we hearing from environmental or safety organizations, or from the state and federal regulators themselves?

They may not know about this rulemaking, just as the Copyright Office was probably not aware of the anti-tampering provisions in the California or U.S. EPA vehicle regulations.

Q. Nothing decided in this proceeding will affect whether a particular vehicle is or is not in compliance with federal or state emissions, safety or other standards. It will only determine whether there is liability under 17 USC 1201(a)(1) for circumvention. So how will our decision impact your companies? Are they currently bringing actions under section 1201(a)(1) against people engaged in circumvention for the purpose of vehicle modification?

There are actually two elements of software changes. First, customers will not know whether their vehicles are operating with modified software, but second, if the original software is reinstalled it would likely be impossible to know that the vehicle had operated on modified software. In many cases, automakers are required to warranty vehicles for up to 15 years or 150,000 miles, if the modified software causes damage, the tinkerer would just need to reinstall the original software before bringing it back to the dealer for repair under warranty.

If this exemption were adopted, you could expect modifications to flourish and with that organizations could develop easier and easier ways of installing modifications – maybe smart phone apps connected to the vehicle. This likely would lead to significant increase in warranty costs for manufacturers.

Q. Can you give an example of how a modification facilitated by circumvention of technological protection measures could inadvertently impact on compliance with regulatory standards?

When an engine is under high speed and/or heavy load (e.g., pulling a trailer up a mountain pass at highway speeds), the catalyst heats up to levels that could cause damage. In these situations, the engine software will greatly increase the amount of gasoline delivered to the engine. The excess gasoline cools and protects the catalyst. If tinkerers modified the engine software and failed to include this provision (or many more) the catalyst would be damaged, and the vehicle would be out of compliance with the emission standards. Moreover, if the tinkerer reinstalled the original engine software, the manufacturer would probably not know what caused the failure.

[REDACTED]

From: Bunker, Byron
Sent: Thursday, July 02, 2015 6:21 PM
To: Cooper, Geoff; Werner, Jacqueline; Orlin, David; Williams, Brent
Cc: Manners, Mary; Cohen, Janet; Hengst, Benjamin; Cook, Leila
Subject: RE: Copyright Response Re: Vehicle Software
Attachments: A Ayala to J Charlesworth - US Copyright Office - July 2015 DRAFT 07022015v2.doc

Note: the attachment is located on page 26, immediately following this email thread.

Thanks Geoff,

Brent is out today, and I will be out next week (7/6 – 7/10). Our individual follow ups will likely cross in the ether.

(b)(5) Deliberative Process Privilege

[REDACTED]

I think a phone call could be a very good idea, and I would be happy to participate in a call during the week of July 13. If you would like to do the call next week, Brent can certainly represent my views on the call.

Steve Wood, Acting Chief Counsel NHTSA, is our contact at DOT on this issue. Steve's contact information is copied below.

Acting Chief Counsel & Assistant Chief Counsel
Vehicle Rulemaking and Harmonization
(+ WTO/TBT and regulatory coherence issues)
National Highway Traffic Safety Administration
West Building, W41-318
1200 New Jersey Avenue, SE
Washington, DC 20590
Tel. 202-366-5240
Cell 202-403-9086
steve.wood@dot.gov

The California Air Resources Board (CARB) is also very concerned about this issue. Attached is CARB's current draft response. They would welcome any feedback that we might have on the draft letter. Annette Hebert (my counterpart at CARB) has the lead on the letter.

Annette's contact information is provided below.

Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science (ECARS) Division
California Air Resources Board
(626)450-6150
ahebert@arb.ca.gov

Thanks for taking this on.

Byron

Byron Bunker
Director Compliance Division
Office of Transportation and Air Quality
Environmental Protection Agency
2000 Traverwood Drive
Ann Arbor, MI 48105
Bunker.Byron@epa.gov
Phone: (734) 214-4155
Mobile: (734) 353-9623

From: Cooper, Geoff
Sent: Thursday, July 02, 2015 10:46 AM
To: Werner, Jacqueline; Orlin, David; Bunker, Byron; Williams, Brent
Subject: RE: Copyright Response Re: Vehicle Software

All,

I just spoke to Michelle Choe from the copyright office. Her office is trying to gather up all comments from the agencies on the DMCA rulemaking by July 17th. I promised her that we would meet that deadline, and that my goal was to send the letter by the end of next week (June 10th).

Michelle also offered to have a phone call with us so we can detail our concerns with exemption, perhaps before we actually send the letter. Apparently, Brent was in touch with the copyright office a few weeks ago and mentioned that NHTSA and DOT might be interested in the rulemaking, too. Brent, if you have any names to contact at those agencies, Michelle would like to reach them.

(b)(5) Attorney Client Privilege



(b)(5) Attorney Client Privilege



Let me know if you would like to arrange a call with the copyright office. I will probably be out on Monday. Wednesday would probably be the best day for me for the phone call.

Thanks,
Geoff

Geoff Cooper
Assistant General Counsel
Intellectual Property Law Practice Group
(202) 564-5451

From: Werner, Jacqueline
Sent: Wednesday, July 01, 2015 1:36 PM
To: Orlin, David; Cooper, Geoff; Bunker, Byron
Subject: RE: Copyright Response Re: Vehicle Software

Great! I just wanted to make sure I hadn't dropped the ball somewhere, especially with the upcoming long weekend.

Thanks,
Jacqueline

Jacqueline Robles Werner
Associate Director
Air Enforcement Division
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
WJCS-1117C (MC-2242A)
Washington, DC 20460
t: 202-564-1036

From: Orlin, David
Sent: Wednesday, July 01, 2015 1:34 PM
To: Werner, Jacqueline; Cooper, Geoff; Bunker, Byron
Subject: RE: Copyright Response Re: Vehicle Software

I was working on some edits in response to some comments from Geoff that the letter could use some greater explanation for people not immersed in the CAA mobile source world. I'll try to circulate those shortly.

David Orlin
U.S. EPA, Office of General Counsel
(202) 564-1222

From: Werner, Jacqueline
Sent: Wednesday, July 01, 2015 1:32 PM
To: Cooper, Geoff; Orlin, David; Bunker, Byron
Subject: RE: Copyright Response Re: Vehicle Software

Hi Geoff –

Just checking in to see where we are with the letter. Please let me know if I can assist in any way.

Thanks,
Jacqueline

Jacqueline Robles Werner
Associate Director
Air Enforcement Division
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
WJCS-1117C (MC-2242A)
Washington, DC 20460
t: 202-564-1036

From: Cooper, Geoff
Sent: Thursday, June 25, 2015 12:30 PM
To: Orlin, David; Bunker, Byron
Cc: Werner, Jacqueline
Subject: RE: Copyright Response Re: Vehicle Software

Thanks, all, for composing and editing what will be the guts of a response to the copyright office on their DMCA rulemaking. I should be able to get to it early next week and circulate a draft with the C/R elements included.

(b)(5) Attorney Client Privilege



Geoff

Geoff Cooper
Assistant General Counsel
Intellectual Property Law Practice Group
(202) 564-5451

From: Orlin, David
Sent: Wednesday, June 24, 2015 3:45 PM
To: Bunker, Byron

Cc: Werner, Jacqueline; Cooper, Geoff
Subject: RE: Copyright Response Re: Vehicle Software

Note: the draft attached to this email, file name
"CopyrightResponse_jrw 06 18 15_bw 06 23 15+do" is withheld
in full under exemption b(5), deliberative process privilege

Thanks, Byron. I went ahead and suggested some edits, although I am happy to defer to Geoff on this (b)(5) Attorney
Client Privilege

David Orlin
U.S. EPA, Office of General Counsel
(202) 564-1222

From: Bunker, Byron
Sent: Wednesday, June 24, 2015 7:47 AM
To: Orlin, David
Subject: FW: Copyright Response Re: Vehicle Software

Sorry David. You should have been copied on this.

(b)(5) Attorney Client Privilege

Thanks,

Byron

From: Williams, Brent
Sent: Tuesday, June 23, 2015 11:12 AM
To: Cooper, Geoff; Werner, Jacqueline
Cc: Bunker, Byron; Manners, Mary
Subject: Copyright Response Re: Vehicle Software

Note: the draft attached to this email, file name
"CopyrightResponse_jrw 06 18 15_bw 06 23 15," is withheld in
full under exemption (b)5, deliberative process privilege

Geoff-

Attached is the rough draft of EPA's response regarding the proposed exemption for circumvention of TPMs on vehicle software. OECA and OTAQ have worked together on this initial draft and now would request you review/edit the letter, add in any copyright law discussion as you see fit, as well as a concluding paragraph, so it can be prepared for Avi's signature through your shop. Thank you so much for the assistance on this issue. Please circulate future versions of the response to the entire group.

Best,
Brent

Brenton Williams
Attorney-Advisor
Compliance Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency
(734) 214-4341

PLEASE NOTE: Beginning May 18 my schedule will be Tue, Wed, Thurs, 8:00am-4:30pm

July xx, 2015

Ms, Jacqueline C. Charlesworth
General Counsel and Associate Register of Copyrights
United States Copyright Office
101 Independence Avenue SE
Washington, DC 20559-6000

SUBJECT: Section 1201 Rulemaking – Proposed Exemptions for Vehicle Software
(Docket No. 2014-07, Proposed Class 21: Vehicle Software –Diagnosis,
Repair, or Modification)

Dear Ms. Charlesworth:

The California Air Resources Board (ARB) appreciates this opportunity to provide comments on the regulatory proceeding currently before the U.S. Copyright Office concerning the proposed exemption of vehicle software from the prohibition to circumvent technological protection measures.

ARB is the state agency charged with protecting air quality in California, conducting research regarding the causes and solution to air pollution, and enforcing the State's laws for the control of air pollution emissions from motor vehicles in California (California Health and Safety Code (H & S) §§ 39002, 39003, and 39500). ARB is also charged with adopting and implementing standards and regulations applicable to various sources of air pollution, including on- and off-road motor vehicles, vehicular fuels, and other carcinogenic, teratogenic, mutagenic, or otherwise toxic air contaminants (H & S §§ 39656, 43013, 43018, 43018.5, and 43101-104.)

The federal Clean Air Act (CAA), 42 U.S.C. § 7401 et seq., authorizes the United States Environmental Protection Agency (U.S. EPA) to, among other things, establish emissions standards for new motor vehicles. The CAA also allows only California to adopt and to enforce new motor vehicle emission standards that are distinct from, and more stringent than comparable federal emission standards, provided U.S. EPA issues California a waiver for such emission standards.

The ARB has adopted and implemented an array of measures to control emissions from on-road vehicles that have been instrumental in improving the air quality in California and which are vital to making the substantial further progress that is required to bring the state into compliance with federally mandated ambient air quality standards. The ARB frequently consults with the U.S. EPA in a variety of matters, and has been informed via your letter to U.S. EPA dated May 12, 2015, of the Section 1201 regulatory proceeding to consider exempting vehicle software from the prohibition of circumvention of technological measures protecting copyrighted works.

As discussed in more detail below, the ARB is deeply concerned that any action taken that would further facilitate or appear to legitimize the modification of on-board vehicle programming would likely create negative consequences for the environment, vehicle safety, and the vehicle owners themselves. The ARB further believes that the exemption sought by the petitioners would not significantly further the stated goals under which it was submitted (i.e., the lawful personalization, improvement, or repair of vehicles by vehicle owners or those working on their behalf).

1. Modifications of vehicle programming for the purpose of improving performance or fuel efficiency are highly likely to negatively impact emissions.

Modern vehicles employ sophisticated emission control systems that reduce tailpipe and evaporative emissions by well over 90 percent compared to the levels emitted just a couple decades ago. These systems rely on the precise control of fuel quantity, delivery, and combustion in coordination with an array of other emission control systems and components that are highly integrated to reduce and remove engine out pollutants before they are released to the atmosphere. Even minor modifications to the operation of the powertrain and the emission controls (and even those that are seemingly beneficial) can significantly increase vehicle emission levels. For example, the most common method of modifying a gasoline powered vehicle to improve fuel economy may be to raise the ratio of air to fuel into the engine to provide for more complete combustion of the fuel. However, doing so greatly reduces the ability of the vehicle's catalytic converter to eliminate oxides of nitrogen (NOx) pollutants coming from the engine before they are released into the air. NOx emissions are one of the primary precursors for the formation of ozone¹ in the atmosphere. On the other hand, modifications to improve vehicle performance in terms of added horsepower or torque often involve a reduced air fuel ratio which results in an increase in carbon

¹ There are federally mandated air quality standards for ozone. Most areas in California are not currently in attainment for these standards.

monoxide and hydrocarbon emissions (another ozone precursor) or, in the case of performance modifications on diesels, diesel particulate matter or “soot,” which is an air toxic.

Such modifications can also affect the durability of the emission control system. For example, modifications that increase exhaust gas temperatures and/or the greater discharge of engine out pollutants can elevate the operating temperature of the catalytic converter, which over time will shorten its life.

2. Increased activity in the modification of vehicle On-Board Diagnostic (OBD) systems could greatly undermine emission inspection programs conducted throughout the U.S.

On-road vehicles sold in the U.S. have been equipped with sophisticated OBD systems since the 1996 model year. These systems are comprised of programming in the on-board computer that works with the various input and outputs to the on-board computer. OBD systems are designed to monitor the performance of vehicle emission control systems, and to alert the vehicle operator of the occurrence of emission-related malfunctions. When a problem is detected, the Malfunction Indicator Light (MIL), also known as the “Check Engine” light, will illuminate, and the on-board computer will store a prescribed set of diagnostic data including diagnostic trouble codes to help service technicians to efficiently repair emission-related problems.

In the more than 30 states that are currently using emission Inspection and Maintenance (I/M) programs as a strategy to meet ambient air quality standards, every state but one (Colorado) uses information from the vehicle OBD systems as the primary mechanism to evaluate the emissions performance of inspected vehicles. Changes to the programming for the OBD system can hinder its ability to detect emission-related malfunctions and/or to correctly communicate the system information necessary to evaluate the vehicle at the time of an inspection. Such changes may be inadvertently made in the process of “adjusting” the on-board programming, or they may be designed to intentionally disable OBD system functions for the purpose of fraudulently getting a vehicle through the inspection process without making necessary (and sometimes costly) repairs to the emissions control system. I/M fraud is already a significant issue that states including California must continually address to ensure their programs remain effective. Increased activity by owners, hobbyists, or others to alter on-board computer programming would likely increase this burden on emissions inspection programs.

3. The assessment of whether or not powertrain modifications are “lawful” from the perspective of emissions is well beyond the capability of most vehicle owners and hobbyists.

Under both California and federal law, vehicle modifications that reduce the effectiveness of the emissions control systems are illegal. Manufacturers certify the emissions performance of the vehicles they produce using a series of complex test procedures carried out in multi-million dollar test facilities equipped with transient dynamometers and sophisticated emissions-measurement instruments. The impact of modifications on the effectiveness of the emission-control systems can only be truly ascertained by subjecting vehicles to such testing in their modified state. Companies that currently offer products that modify emission-controlled vehicles must invest thousands of dollars to purchase necessary testing at ARB recognized laboratories to demonstrate that the modifications do not violate the anti-tampering provisions contained in Section 27156 of the California Vehicle Code. The testing must include an assessment of the modification's effect on vehicle OBD systems.

Due to the complexity and sensitivity of emission control and OBD system designs, the ARB believes that a high percentage of modifications made by owners and hobbyists would likely reduce the emissions-performance of their vehicles, but the process of conclusively making or refuting that determination is impractical in such cases for both the regulatory agencies and the owners/hobbyists. Therefore, the ARB believes that increased activity in this area will ultimately undermine the progress and goals of state and federal vehicle emission control programs.

4. Greater access to on-board computer reprogramming is not necessary for the purpose of vehicle maintenance and repair.

Section 1969, Title 13, California Code of Regulations requires vehicle manufacturers to make available to independent service providers the same emission-related service information and tools that dealerships use. That includes tools and information necessary to install software updates developed and released by the vehicle manufacturers. The tools do not provide for the alteration of the software; however, in ARB's opinion, customization of the software is never necessary in order to repair or maintain a stock vehicle. Replacement parts are designed to function in all material respects identically to the original equipment, and as such, they are compatible with the vehicle

programming that is made available by vehicle manufacturers. The U.S. EPA has adopted similar service information requirements that apply federally.

5. Although California emission regulations do not currently require the use of anti-tampering measures for vehicle computer programming, the ARB considers the use of such measures to be critical to the success of its emission standards and requirements.

For the reasons discussed in the sections above, proper emissions and OBD system performance for in-use vehicles is critically dependent on limiting third party opportunities to alter vehicle programming, and the lack of specific tamper resistance requirements in the current California regulatory structure is not an indication of any lack of importance. When on-board computers first made their way into on-road vehicles in the 1980's and into the 1990's, ARB regulation required manufacturers to implement anti-tampering measures to deter third party alteration of the on-board computer's programming. However, as on-board computer technology evolved from using programmable read only memory chips that contain vehicle programming to designs that can be re-flashed in the field through the vehicle network, it became clear to the ARB that the vehicle security issues that manufacturers face would lead them to implement anti-tampering strategies on their own that would meet or exceed any requirements the agency could reasonably set forth and maintain. The ARB believes that removing copyright protections could significantly alter these circumstances and require both manufacturers and regulatory agencies to reconsider how the security of vehicle programming can best be ensured.

Thank you for considering the Air Resources Board's comments and concerns regarding this issue. Should you have any questions or require additional information, please contact Annette Herbert, Chief, Emission Compliance, Automotive Regulations and Science (ECARS) Division at (626) 450-6150 or annette.hebert@arb.ca.gov.

Sincerely,

Dr. Alberto Ayala
Deputy Executive Officer

[REDACTED]

From: Cooper, Geoff
Sent: Tuesday, July 07, 2015 10:50 AM
To: Orlin, David
Subject: RE: Copyright Response Re: Vehicle Software

David,

The more I read through this letter, the more it appears to me that there is some redundancy, that we have a fairly discrete concern but that we spend four paragraphs explaining it. Isn't it correct to simply say this: if people are allowed to bypass a technological protection measure to get access to an ECM, the modification, improvements, etc., they do will be to increase fuel efficiency or performance (mostly). This will result in greater emissions (in our experience). ?

The letter also contains this sentence: "Manufacturers are already required to provide lawful access for lawful diagnosis, repair and modifications." If that's the case, is there any reason to be concerned about exempting TPMs? Couldn't someone get to the ECM anyway? That's what seems to be implied by that sentence.

Thanks,
Geoff

-----Original Message-----

From: Orlin, David
Sent: Thursday, July 02, 2015 4:52 PM
To: Cooper, Geoff; Werner, Jacqueline; Bunker, Byron; Williams, Brent
Subject: RE: Copyright Response Re: Vehicle Software

Thanks Geoff. I am free for a call on Weds. Per your comments below (and earlier) I have gone back to the letter and tried to substantially simplify it while keeping the main points (and it could perhaps be cut back further).

David Orlin
U.S. EPA, Office of General Counsel
(202) 564-1222

From: Cooper, Geoff
Sent: Thursday, July 2, 2015 10:45 AM
To: Werner, Jacqueline; Orlin, David; Bunker, Byron; Williams, Brent
Subject: RE: Copyright Response Re: Vehicle Software

All,

I just spoke to Michelle Choe from the copyright office. Her office is trying to gather up all comments from the agencies on the DMCA rulemaking by July 17th. I promised her that we would meet that deadline, and that my goal was to send the letter by the end of next week (June 10th).

Michelle also offered to have a phone call with us so we can detail our concerns with exemption, perhaps before we actually send the letter. Apparently, Brent was in touch with the copyright office a few weeks ago and mentioned that NHTSA and DOT might be interested in the rulemaking, too. Brent, if you have any names to contact at those agencies, Michelle would like to reach them.

(b)(5) Attorney Client Privilege

[REDACTED]

[REDACTED]

[REDACTED]

Let me know if you would like to arrange a call with the copyright office. I will probably be out on Monday. Wednesday would probably be the best day for me for the phone call.

Thanks,
Geoff

Geoff Cooper
Assistant General Counsel
Intellectual Property Law Practice Group
(202) 564-5451

From: Werner, Jacqueline
Sent: Wednesday, July 01, 2015 1:36 PM
To: Orlin, David; Cooper, Geoff; Bunker, Byron
Subject: RE: Copyright Response Re: Vehicle Software

Great! I just wanted to make sure I hadn't dropped the ball somewhere, especially with the upcoming long weekend.

Thanks,
Jacqueline

Jacqueline Robles Werner
Associate Director
Air Enforcement Division
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
WJCS-1117C (MC-2242A)
Washington, DC 20460
t: 202-564-1036

From: Orlin, David
Sent: Wednesday, July 01, 2015 1:34 PM
To: Werner, Jacqueline; Cooper, Geoff; Bunker, Byron
Subject: RE: Copyright Response Re: Vehicle Software

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U.S. EPA, Office of General Counsel
(202) 564-1222

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To: Cooper, Geoff; Orlin, David; Bunker, Byron
Subject: RE: Copyright Response Re: Vehicle Software

Hi Geoff –

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Thanks,
Jacqueline

Jacqueline Robles Werner
Associate Director
Air Enforcement Division
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
WJCS-1117C (MC-2242A)
Washington, DC 20460
t: 202-564-1036

From: Cooper, Geoff
Sent: Thursday, June 25, 2015 12:30 PM
To: Orlin, David; Bunker, Byron
Cc: Werner, Jacqueline
Subject: RE: Copyright Response Re: Vehicle Software

Thanks, all, for composing and editing what will be the guts of a response to the copyright office on their DMCA rulemaking. I should be able to get to it early next week and circulate a draft with the C/R elements included.

(b)(5) Attorney Client Privilege



Geoff

Geoff Cooper
Assistant General Counsel
Intellectual Property Law Practice Group
(202) 564-5451

From: Orlin, David
Sent: Wednesday, June 24, 2015 3:45 PM
To: Bunker, Byron
Cc: Werner, Jacqueline; Cooper, Geoff
Subject: RE: Copyright Response Re: Vehicle Software

Note: (same email as p. 25) the draft attached to this email, file name "CopyrightResponse_jrw 06 18 15_bw 06 23 15+do," is withheld in full under exemption b(5), deliberative process privilege

Thanks, Byron. I went ahead and suggested some edits, although I am happy to defer to Geoff on this.

(b)(5) Attorney
Client Privilege

David Orlin
U.S. EPA, Office of General Counsel
(202) 564-1222

From: Bunker, Byron
Sent: Wednesday, June 24, 2015 7:47 AM
To: Orlin, David
Subject: FW: Copyright Response Re: Vehicle Software

Sorry David. You should have been copied on this.

(b)(5) Attorney Client Privilege

Thanks,

Byron

From: Williams, Brent
Sent: Tuesday, June 23, 2015 11:12 AM
To: Cooper, Geoff; Werner, Jacqueline
Cc: Bunker, Byron; Manners, Mary
Subject: Copyright Response Re: Vehicle Software

Note: (same email as p. 25) the draft attached to this email, file name "CopyrightResponse_jrw 06 18 15_bw 06 23 15," is withheld in full under exemption (b)5, deliberative process privilege

Geoff-

Attached is the rough draft of EPA's response regarding the proposed exemption for circumvention of TPMs on vehicle software. OECA and OTAQ have worked together on this initial draft and now would request you review/edit the letter, add in any copyright law discussion as you see fit, as well as a concluding paragraph, so it can be prepared for Avi's signature through your shop. Thank you so much for the assistance on this issue. Please circulate future versions of the response to the entire group.

Best,
Brent

Brenton Williams
Attorney-Advisor
Compliance Division
Office of Transportation and Air Quality U.S. Environmental Protection Agency

(734) 214-4341

PLEASE NOTE: Beginning May 18 my schedule will be Tue, Wed, Thurs, 8:00am-4:30pm

From: Choe, Michelle <mchoe@loc.gov>
Sent: Tuesday, July 07, 2015 8:45 AM
To: Cooper, Geoff
Subject: RE: Contacts for DMCA rulemaking

Hi Geoff,

Glad to hear the EPA will be able to send a formal response in time, and, of course, if the EPA would like to have a phone conversation, we'd be happy to set that up. Thank you for the contact information for NHTSA and the California Air Resources Board, and please feel free to contact me if you or anyone else at the EPA have any remaining questions.

Best,
Michelle

From: Cooper, Geoff [mailto:Cooper.Geoff@epa.gov]
Sent: Monday, July 06, 2015 11:18 AM
To: Choe, Michelle
Subject: Contacts for DMCA rulemaking

Michelle,

Some of the people I've needed to speak to about EPA's views on the DMCA rulemaking have been out, at various times, recently, and others are out for most of this week. I still will be able to send a formal, EPA response in time for your office's review, though. We also may take you up on the offer for a phone conversation so you can hear more details about EPA's concerns.

In the meantime, I did get two other contacts from one of our Air Act experts before he left on vacation. For the National Highway Traffic Safety Administration, our contact is:

Steve Wood
Acting Chief Counsel & Assistant Chief Counsel
Vehicle Rulemaking and Harmonization
(+ WTO/TBT and regulatory coherence issues)
National Highway Traffic Safety Administration
West Building, W41-318
1200 New Jersey Avenue, SE
Washington, DC 20590
Tel. 202-366-5240
Cell 202-403-9086
steve.wood@dot.gov

And, the EPA contact in the California Air Resources Board is:

Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science (ECARS) Division
California Air Resources Board
(626)450-6150
ahebert@arb.ca.gov

I'm not sure if there is anyone else in the Department of Transportation to speak to, other than Steve Wood (NHTSA is part of DOT) but I'm still making inquiries.

Once I have sorted out the schedules for our Clean Air Act specialists who can speak to the exemption, I'll get in touch to set up the phone call. That may not be until early next week.

Thanks, again, for your patience.

Geoff

Geoff Cooper
Assistant General Counsel
Office of General Counsel
Environmental Protection Agency
12th & Penn. Av. N.W.
Washington, D.C. 20460
(202) 564-5451

[REDACTED]

From: Choe, Michelle <mchoe@loc.gov>
Sent: Wednesday, July 15, 2015 12:20 PM
To: Cooper, Geoff
Subject: RE: Contacts for DMCA rulemaking

Great, thanks for letting me know. As for the call, that would be fine. When you are able to find a time, please let me know, and I'd be happy to coordinate with you in setting up a call.

Michelle

From: Cooper, Geoff [mailto:Cooper.Geoff@epa.gov]
Sent: Wednesday, July 15, 2015 11:42 AM
To: Choe, Michelle
Subject: RE: Contacts for DMCA rulemaking

Thanks for checking in, Michelle. I should have a letter to you by later today or tomorrow. Yes, I think EPA would like to set up a call, but I haven't been able to find a time when our Clean Air Act experts (in Ann Arbor) and my colleague in OGC are around at the same time (vacations, mainly). I may not be able to arrange anything until next week or the week afterward.

Geoff

From: Choe, Michelle [mailto:mchoe@loc.gov]
Sent: Wednesday, July 15, 2015 10:49 AM
To: Cooper, Geoff
Subject: RE: Contacts for DMCA rulemaking

Hi Geoff,

I thought I'd check in with you and see if the EPA wanted to discuss anything before sending a response letter by Friday. Please let me know if the EPA would like to set up a call.

Best,
Michelle

From: Cooper, Geoff [mailto:Cooper.Geoff@epa.gov]
Sent: Monday, July 06, 2015 11:18 AM
To: Choe, Michelle
Subject: Contacts for DMCA rulemaking

Michelle,

Some of the people I've needed to speak to about EPA's views on the DMCA rulemaking have been out, at various times, recently, and others are out for most of this week. I still will be able to send a formal, EPA response in time for your

office's review, though. We also may take you up on the offer for a phone conversation so you can hear more details about EPA's concerns.

In the meantime, I did get two other contacts from one of our Air Act experts before he left on vacation. For the National Highway Traffic Safety Administration, our contact is:

Steve Wood
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Vehicle Rulemaking and Harmonization
(+ WTO/TBT and regulatory coherence issues)
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West Building, W41-318
1200 New Jersey Avenue, SE
Washington, DC 20590
Tel. 202-366-5240
Cell 202-403-9086
steve.wood@dot.gov

And, the EPA contact in the California Air Resources Board is:

Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science (ECARS) Division
California Air Resources Board
(626)450-6150
ahebert@arb.ca.gov

I'm not sure if there is anyone else in the Department of Transportation to speak to, other than Steve Wood (NHTSA is part of DOT) but I'm still making inquiries.

Once I have sorted out the schedules for our Clean Air Act specialists who can speak to the exemption, I'll get in touch to set up the phone call. That may not be until early next week.

Thanks, again, for your patience.

Geoff

Geoff Cooper
Assistant General Counsel
Office of General Counsel
Environmental Protection Agency
12th & Penn. Av. N.W.
Washington, D.C. 20460
(202) 564-5451

[REDACTED]

From: Cooper, Geoff
Sent: Thursday, July 16, 2015 5:00 PM
To: 'Choe, Michelle'
Subject: EPA views on DMCA rulemaking
Attachments: DMCA response GC draft (3) 7 16-15.docx

Michelle,

I'm attaching what I think will be the final version of the EPA letter. I had hoped to be done with this early in the week but, once again, I was thwarted by the shifting demands of the many people who needed to weigh in on it (and just two paragraphs, at that). I'll be sure to scan and e-mail a final version tomorrow. Thanks, again, for your patience.

Geoff

July 16, 2015

Jacqueline C. Charlesworth
General Counsel and Associate Register of Copyrights
United States Copyright Office, Library of Congress
101 Independence Avenue, S.E.
Washington, D.C. 20559-6000

Re: Section 1201 Rulemaking (Docket No. 2014-07)
Proposed Exemption for Vehicle Software
U.S. Environmental Protection Agency Views

VIA E-MAIL and FIRST CLASS MAIL

Dear Ms. Charlesworth:

Thank you for your May 12, 2015 letter to Avi S. Garbow, General Counsel of the U.S. Environmental Protection Agency (“Agency” or “EPA”), notifying him about the rulemaking the U.S. Copyright Office is conducting under the Digital Millennium Copyright Act (“DMCA”) and inviting the Agency to submit its views. I am responding on behalf of the General Counsel and appreciate the opportunity to convey the Agency’s concerns with the possible outcome of this rulemaking.

The DMCA prohibits persons from circumventing “technological protection measures” (“TPMs”) that restrict access to copyrighted works. 17 U.S.C. § 1201(a). It also authorizes the Librarian of Congress, upon your office’s recommendation, to exempt certain TPMs from this “anti-circumvention” provision to allow uses of the protected works that would not otherwise be copyright infringement. 17 U.S.C. § 1201(c). In this year’s rulemaking, the latest in a series of triennial rulemakings your office conducts under section 1201(c)(1), you are considering whether the Librarian should exempt TPMs that control access to computer programs installed in cars, trucks and agricultural machinery. 79 Fed. Reg. 73856-72, Notice of proposed rulemaking (Dec. 12, 2014).

The notice of proposed rulemaking seeks comment on two classes of TPM protected computer programs installed on motor vehicles. The Agency is concerned that exempting those

TPMs from the DMCA's anti-circumvention provision would enable actions that could slow or reverse gains made under the Clean Air Act ("CAA").

Regulations adopted by EPA under sections 202 and 213 of the CAA, 42 U.S.C. §§ 7521 and 7547, are responsible for a significant reduction in harmful emissions from motor vehicles. Computer programs installed on motor vehicles, controlling engine operations and minimizing emissions under a variety of conditions, have been critical to achieving the reduction, now over 90 percent since the passage of the 1990 Clean Air Act amendments. One such computer programs, the Electronic Control Module, continuously monitors the vehicle engine and emission control system and dictates, among other things, the engine's fueling and timing strategies for purposes of complying with the CAA and its regulations. TPMs for Electronic Control Modules make it difficult for anyone other than the vehicle manufacturer to obtain access to the software.

The proposed exemptions would allow the owners of personal and commercial vehicles and of agricultural machinery, or persons acting on the owners' behalf, to bypass TPMs restricting access to vehicle software "for purposes of lawful diagnosis and repair, or aftermarket personalization, modification or other improvement" (Proposed Class 21) and "for purposes of researching the security or safety of such vehicles" (Proposed Class 22). 79 Fed. Reg. at 73869. Exemption proponents¹ maintain that the exemptions will allow vehicle owners to "personalize, improve or repair" and to "tinker with"² their vehicles, farmers to modify the efficiency and functionality of agricultural machinery,³ and researchers to discover programming errors that pose safety risks or make a vehicle vulnerable to remote attackers⁴.

The purposes cited by exemption proponents for seeking easier access to vehicle software are reasonable, but EPA predicts that the exemptions would allow users to modify that software for purposes other than those the proponents envision. Based on the information EPA has obtained in the context of enforcement activities, the majority of modifications to engine software are being performed to increase power and/or boost fuel economy. These kinds of modifications will often increase emissions from a vehicle engine, which would violate section 203(a) of the CAA, commonly known as the "tampering prohibition".⁵

¹ In response to the Copyright Office's Notice of Inquiry, 79 Fed. Reg. 55687 (Sept. 17, 2014), the Electronic Frontier Foundation ("EFF") and the Intellectual Property & Technology Law Clinic of the University of Southern California ("USC") submitted petitions to exempt vehicle software TPMs.

² Petition of EFF [Vehicle Software – Modification and Repair] at 2.

³ Petition of USC [Vehicle Software – Modification] at 3.

⁴ Petition of EFF [Vehicle Software – Safety Research] at 4,5.

⁵ Under Section 203(a)(3) of the CAA, it is a violation of federal law:

EPA is also concerned that the exemptions would hinder its ability to enforce CAA section 203(a). Under the tampering prohibition, the Agency has taken enforcement action against third-party software vendors who sell or install equipment that can “bypass, defeat, or render inoperative” software designed to enable vehicles to comply with CAA regulations. EPA can curb this practice more effectively if circumventing TPMs remains prohibited under the DMCA.

The Agency also questions whether there is a real need for the exemptions. Car makers are already required to provide access for lawful diagnosis and repair.⁶ In EPA’s view, TPMs do although designed for other purposes, prevent unlawful tampering of important motor vehicle software.

The DMCA lists a number of factors for the Librarian to consider in determining whether to exempt a TPM from the Act’s anti-circumvention provision. Those factors appear to have little bearing on whether the Librarian should grant the exemptions for vehicle software TPMs to allow for the uses identified in the December 12th Notice of proposed rulemaking. For example, neither exemption would advance the purposes for which the fair use exception has traditionally applied, 17 U.S.C. § 1201((a)(C)(iii), nor have any effect on the market for the software, 17 U.S.C. § 1201((a)(C)(iv). The exemption would, though, make it easier to enable wrongdoing under another statute, which your office properly views as another “factor that may be appropriate for the Librarian to consider in evaluating this exemption.” 79 Fed. Reg. at 73858.

For all of these reasons, EPA urges you not to recommend the exemptions described in Proposed Class 21 and Proposed Class 22. Any benefit in exempting motor vehicle TPMs, allowing lawful owners to make non-infringing uses of the underlying software, is exceeded by the risk that lawful owners could, intentionally or not, modify that software in a way that would increase emissions regulated under the CAA.

“for any person to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title prior to its sale and delivery to the ultimate purchaser, or for any person knowingly to remove or render inoperative any such device or element of design after such sale and delivery to the ultimate purchaser; or for any person to manufacture or sell, or offer to sell, or install, any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine, where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title, and where the person knows or should know that such part or component is being offered for sale or installed for such use or put to such use.”

42 U.S.C. § 7522(a).

⁶ 40 C.F.R. 86.1806-05(f). See also Memorandum of Understanding and Right to Repair Agreement, a nationwide agreement among automakers, after-market part suppliers, and auto repair businesses to provide necessary access to vehicle software for repair purposes.

We welcome the opportunity to speak directly with your office so we can provide more details regarding EPA's concerns. I will contact you to arrange that meeting with EPA experts on CAA vehicle emissions regulations. In the meantime, if you have any questions, please don't hesitate to contact me.

Sincerely,

Geoff Cooper
Assistant General Counsel
Cooper.geoff@epa.gov
(202) 564-5451

cc: Avi S. Garbow, General Counsel, EPA
John B. Morris, Associate Director and Director of Internet Policy, NTIA

[REDACTED]

From: Cooper, Geoff
Sent: Friday, July 17, 2015 2:38 PM
To: 'Choe, Michelle'
Subject: EPA response
Attachments: EPA views to USCO 7.17.15.pdf

Note: the attached letter is the second document in this production, the July 17 letter from EPA to the USCO.

Michelle,

I sent the attached, signed letter to Jacqueline Charlesworth earlier today. When I got the return message saying that she will be out of the office, I thought it would be good to send it separately to you.

Thanks again for your help and patience. I will contact you Monday or Tuesday, once I get a better idea about schedules and who would be able to discuss EPA's concerns with your office.

Have a great weekend.

Geoff

From: Charlesworth, Jacqueline <jcharlesworth@loc.gov>
Sent: Friday, July 17, 2015 3:26 PM
To: Cooper, Geoff
Cc: Charlesworth, Jacqueline
Subject: Re: EPA views on Section 1201 rulemaking

Mr. Cooper:

Thank you for this, which we will review with interest.

Jacqueline

Jacqueline C. Charlesworth
General Counsel and
Associate Register of Copyrights
U.S. Copyright Office
jcharlesworth@loc.gov
202.707.8772

On Jul 17, 2015, at 1:36 PM, Cooper, Geoff <Cooper.Geoff@epa.gov> wrote:

Dear Ms. Charlesworth:

Thank you for inviting the views of the U.S. Environmental Protection Agency (EPA) on the rulemaking proceeding your office is now conducting, examining whether to exempt certain vehicle software access controls from liability for circumvention. EPA does have concerns about the proposed exemptions, which I have described in the attached letter. I am mailing a hard copy of the letter today.

I am particularly grateful to Michelle Choe in your office, who responded to my questions promptly and patiently.

Sincerely,

Geoff Cooper
Assistant General Counsel
Office of General Counsel
Environmental Protection Agency
12th & Penn. Av. N.W.
Washington, D.C. 20460
(202) 564-5451

Not Responsive

From: Steve Douglas [mailto:SDOUGLAS@autoalliance.org]

Sent: Tuesday, July 21, 2015 10:49 AM

To: Wehrly, Linc <wehrly.linc@epa.gov>

Cc: Chris Nevers <CNevers@autoalliance.org>

Subject: DMCA - Vehicle Software Exemption

Note: the attachment referenced in this email is the May 12th 2015 letter from the US Copyright Office to EPA, the first document in this production.

Linc,

Did EPA send a letter to the Copyright office in response to the attached? I've been working with Mike McCarthy and Annette, and I think they're planning to send a response this week. If you've responded, can you send me a copy of the letter?

Thanks.

Best regards,

Steve

Steve Douglas

Senior Director, Environmental Affairs

Alliance of Automobile Manufacturers

1415 L Street, Suite 1190

Sacramento, CA 95814

Text or call: (916) 538-1197

[REDACTED]

From: Cooper, Geoff
Sent: Monday, July 27, 2015 12:58 PM
To: Bunker, Byron; Orlin, David; Werner, Jacqueline; Belser, Evan
Cc: Williams, Brent
Subject: RE: 1201 Rulemaking - Call

Thanks, Byron. The copyright office can have a call at 1:00 Wednesday, so I'll send out a calendar invitation. I suppose you'll need to activate the conference line. Geoff

From: Bunker, Byron
Sent: Monday, July 27, 2015 9:28 AM
To: Cooper, Geoff; Orlin, David; Werner, Jacqueline; Belser, Evan
Cc: Williams, Brent
Subject: RE: 1201 Rulemaking - Call

Thanks Geoff.

I can be available Tuesday at 3 or 4 PM and Wednesday at 12 or 1 PM.

We can use my conference line.

Conference line 866 299-3188
Conference code 7342144155#

Thanks,

Byron

Byron Bunker
Director Compliance Division
Office of Transportation and Air Quality
Environmental Protection Agency
2000 Traverwood Drive
Ann Arbor, MI 48105
Bunker.Byron@epa.gov
Phone: (734) 214-4155
Mobile: (734) 353-9623

From: Cooper, Geoff
Sent: Monday, July 27, 2015 9:21 AM
To: Bunker, Byron; Orlin, David; Werner, Jacqueline; Belser, Evan
Subject: FW: 1201 Rulemaking - Call

Using the scheduling assistant, I was unable to find time any time this week where all of us would be available for a call. In the hope that the scheduling assistant is not up to date (or, more likely, my skill in using it is pretty bad), could you tell

me your availability for, say, Tuesday or Wednesday afternoon? I'm gone on Thursday, although I'm probably not critical for this phase of the conversation.

I'll try to arrange something with Michelle, but if it won't work this week, I'll find out if next week is still OK.

Oh, and does anyone have a conference line we could use?

Thanks,
Geoff

From: Choe, Michelle [<mailto:mchoe@loc.gov>]

Sent: Friday, July 24, 2015 3:09 PM

To: Cooper, Geoff

Subject: 1201 Rulemaking - Call

Hi Geoff,

Thank you for getting back to me about a call. We are generally available for a call next week, except for Friday, so please let us know what dates and times work best for you and your colleagues at the EPA.

Best,
Michelle

Michelle Choe
Barbara A. Ringer Fellow
United States Copyright Office
Library of Congress
101 Independence Ave SE
Washington, DC 20559-6003
202.707.9536 (direct)

From: Cooper, Geoff
Sent: Monday, July 27, 2015 12:55 PM
To: 'Choe, Michelle'
Subject: RE: 1201 Rulemaking - Call

Thanks, Michelle. I'll send a calendar invitation. Geoff

From: Choe, Michelle [mailto:mchoe@loc.gov]
Sent: Monday, July 27, 2015 12:53 PM
To: Cooper, Geoff
Subject: RE: 1201 Rulemaking - Call

Hi Geoff,

I am emailing to confirm that this Wednesday, 1 pm works for us for a call. Please let me know if you have any questions.

Best,
Michelle

From: Choe, Michelle
Sent: Friday, July 24, 2015 3:09 PM
To: 'Cooper, Geoff'
Subject: 1201 Rulemaking - Call

Hi Geoff,

Thank you for getting back to me about a call. We are generally available for a call next week, except for Friday, so please let us know what dates and times work best for you and your colleagues at the EPA.

Best,
Michelle

Michelle Choe
Barbara A. Ringer Fellow
United States Copyright Office
Library of Congress
101 Independence Ave SE
Washington, DC 20559-6003
202.707.9536 (direct)

From: [Cooper, Geoff](#)
To: [Choe, Michelle](#); sruwe@loc.gov; [Bunker, Byron](#); [Orlin, David](#); [Werner, Jacqueline](#); [Belser, Evan](#)
Subject: EPA response to DMCA rulemaking

Conference line: 866/299-3188
Conference code [REDACTED]

[REDACTED]

From: Cooper, Geoff
Sent: Wednesday, July 29, 2015 12:44 PM
To: Bunker, Byron; Orlin, David; Werner, Jacqueline; Belser, Evan
Subject: RE: Tomorrow's call

Let's jump right in at one o'clock.

From: Bunker, Byron
Sent: Wednesday, July 29, 2015 12:31 PM
To: Cooper, Geoff; Orlin, David; Werner, Jacqueline; Belser, Evan
Subject: RE: Tomorrow's call

Thanks Geoff.

That sounds good. Do we want to start the call early (12:45) or is this plan good enough?

Thanks,

Byron

Byron Bunker
Director Compliance Division
Office of Transportation and Air Quality
Environmental Protection Agency
2000 Traverwood Drive
Ann Arbor, MI 48105
Bunker.Byron@epa.gov
Phone: (734) 214-4155
Mobile: (734) 353-9623

From: Cooper, Geoff
Sent: Wednesday, July 29, 2015 10:09 AM
To: Bunker, Byron; Orlin, David; Werner, Jacqueline; Belser, Evan
Subject: RE: Tomorrow's call

Byron.

Our response identified two, CAA related concerns we have with the exemption: (1) it will make it easier for owners to make modifications that will result in increased emissions and (2) it will complicate our ability to enforce against vendors of equipment that bypass the access controls. I'll start out with the copyright reasons for not granting the exemption (which will be nothing new to them), and then could turn it over to you and others for the CAA reasons. They won't be familiar with those reasons and the letter is pretty succinct about it. I think it would help them to have more of the details behind our concerns.

Geoff

From: Bunker, Byron
Sent: Tuesday, July 28, 2015 5:41 PM
To: Orlin, David; Cooper, Geoff; Werner, Jacqueline; Belser, Evan
Subject: RE: Tomorrow's call

I can make 11 or 12:45 with a small preference for 12:45. I am also good with sorting it out via e-mail.

The main point that I would like to make is that it is extremely unlikely that a vehicle owner can adjust a modern vehicle in a way that would not adversely impact emissions. Accomplishing this trick would require not just the TPM but also a dynamometer and an emissions testing bench. This point could be made at whatever step in the discussion makes sense to OGC.

Thanks,

Byron

Byron Bunker
Director Compliance Division
Office of Transportation and Air Quality
Environmental Protection Agency
2000 Traverwood Drive
Ann Arbor, MI 48105
Bunker.Byron@epa.gov
Phone: (734) 214-4155
Mobile: (734) 353-9623

From: Orlin, David
Sent: Tuesday, July 28, 2015 4:10 PM
To: Cooper, Geoff; Bunker, Byron; Werner, Jacqueline; Belser, Evan
Subject: RE: Tomorrow's call

I'm free between 10 and 11 or at 12:45. I would think it makes sense for us to have a brief conversation, at least to decide who should take the lead on the CAA perspective (unless we want to do that by email).

David Orlin
U.S. EPA, Office of General Counsel
(202) 564-1222

From: Cooper, Geoff
Sent: Tuesday, July 28, 2015 3:29 PM
To: Bunker, Byron; Werner, Jacqueline; Orlin, David; Belser, Evan
Subject: Tomorrow's call

All,

We'll be speaking with Michelle Choe and Steve Ruwe, both of whom are in the general counsel's office of the Register of Copyright and are mainly responsible for sorting through the comments on the proposed exemptions.

My plan is to start the conversation off by introducing us all and then, briefly, giving the copyright law reason for not exempting vehicle software. They have no doubt heard that reason many times before (there is no productive value to removing the barrier – it doesn't spur the creation of more expressive works, it doesn't contribute to knowledge, etc.), so I'll be brief. After that, I plan to turn it over to one of you for the CAA perspective.

My sense is that the copyright office is receptive to our concerns, but they will probably need to know why we think more mischief will result if we exempt these devices from liability under the copyright law. We may need to provide them with some documentation.

If you think we should find a few minutes before the call and discuss our approach, please let me know. I could call in a few minutes before 1, or between 10 and 11 tomorrow.

Thanks,
Geoff

Withheld in Full:

1. Early draft of EPA letter to Copyright office. File name: *CopyrightResponse_jrw 06 18 15_bw 06 23 15*. 3 pages. See pages 25 and 34 for parent email.
2. Early draft of EPA letter to Copyright office. File name: *CopyrightResponse_jrw 06 18 15_bw 06 23 15+do*. 4 pages. See pages 25 and 34 for parent email.